Assessing Information Support at the Civil-Military Boundary
Operation Unified Assistance in Indonesia

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Background:

On 26 December 2004 an earthquake and tsunami just west of the northern coast of Sumatra combined to devastate a wide geographic area. The greatest damage was found in the Indonesian Special Territory of Aceh, a region that had been closed to outsiders for roughly twenty years due to a civil insurgency.

Initial casualty reports put the deaths in the Aceh area in the tens of thousands, with at least as many displaced. Within a week the damage around the Bay of Bengal led to the largest humanitarian response in world history. Special attention was needed for Sri Lanka, Thailand, the Maldives, Tamil Nadu in India, and within northern Sumatra.

The US military was tasked with a response predominantly in Indonesia under the Commander for Carrier Strike Group Nine aboard USS Abraham Lincoln (CVN-72). They were joined by Expeditionary Strike Group Five led by USS BonHomme Richard (LHD-6) and the 15th Marine Expeditionary Unit. Each was re-directed while in transit and ordered to a station within helo range of the northwest coast of Sumatra. They were re-labeled a Combined Support Force, and given the numerical designation 536 (so CSF-536). A US military staging base for the humanitarian response was established through both the III Marine Expeditionary Force out of Okinawa and through a civil-military operations center established by the MEF and CSF-536 at Utapao Air Base in Thailand.

Ten days after the initial event a team of three (US Navy Commander and physician Eric Rasmussen, physician and information scientist Dr. David Warner, and retired US Naval Flight Officer and information management consultant Daniel Engle) left the US for Jakarta on orders to lend support to the humanitarian information requirements of both the US military and the UN relief agencies. We were tasked by the Assistant Secretary of Defense for Networks and Information Integration (OSD-NII) and by CNO OPNAV-N71 to identify, document, and address constructively issues impeding optimal work at the civil-military boundary.

It should be remembered that, although I was on OPNAV orders, I had no tasking authority and my orders did not obligate anyone in theater to do anything but be polite. Cooperation from those we worked with was through discussion and courtesy and through their clear desire to accomplish the greatest possible good for the victims of the disaster. That said, cooperation with us was superb on both sides of the civil-military boundary. In particular, in watching those in the US military through the response I can honestly state that, in 23 years of service, I have never been more proud of the sailors and Marines I serve alongside.

During our deployment we were able to work within the US staging base at Utapao, the UN Operations Center in Jakarta, the airfield in Banda Aceh, the UN compound in Banda Aceh, the USS Abraham Lincoln (CVN-72), with staff from the BonHomme Richard, and on the airfield at Medan. For a longer narrative I invite the reader to my Trip Diary of 18 January 2005. Below is a list of observations, with accompanying recommendations. The recommendations are re-stated in a consolidated Summary after section 22.

Overview:

As an overarching thread, communicating was a constant challenge. It was difficult to get on any network except at a hotel. When we gained access to a network, we rarely had any ability to share that network with others who had similar needs. When we had a network we held in common we had no sharable, interoperable, mutually acceptable, or familiar collaboration tools to take best advantage of those comms. This was despite all of this having been recognized years before. Solutions have been designed, and then those solutions exercised successfully, on many occasions in the past. This region of the Pacific had, for example, hosted the military exercise Cobra Gold several times over the past decade, with a complex humanitarian emergency within it, and the solutions provided for civil-military communications had reportedly worked then. Those same solutions appeared to have only a very limited functionality in this real world disaster and yet the capabilities they were designed to provide were badly needed.

For those with limited time, there is a Summary starting on page 12.

Disclaimer: The opinions expressed in this report are mine, though they may have been developed in concert with numerous colleagues. I am solely responsible for errors and omissions. I do not speak for the Department of the Navy or the Department of Defense.

Tsunami 2004 Observations and Recommendations:

1: On the day we arrived the US staging base in Utapao, Thailand had no shared awareness we could determine within their equivalent to a civil-military operations center. No chat, no VOIP, and no collaborative tools within the Combined Support Force or intersecting with the relief agencies in Jakarta, Medan, or Banda Aceh that anyone I spoke with knew about. There was email to some locations and there were cell phones. Hotmail accounts were in use by Naval staff due to unreliability on local accounts. Landlines were limited, bandwidth was limited, and physical access was limited. A common operational picture was not present that I could discern. Those I asked did not have a contact list for civil or military teams in Indonesia but they were trying to create one.

>   **1: Recommendation:** Any operations center that must respond to real-world events in real-time be provided with multi-modal address books and rapid point-of-presence indicators (shared-awareness capabilities) that cross the civil-military boundary smoothly and securely.

>   Communications capabilities should include pure civilian communications and may well be best placed remotely so that bandwidth and lodging can be optimized. That may be a hotel, an aircraft carrier, or a remote population center a continent away. The core requirement is that all agencies have local representation and unfettered bandwidth to their rear and forward staff. On that basis, physical location should be optimized and may well be in a city or aboard a CV.

2: The Asia-Pacific Area Network was designed for civil-military collaboration and yet was in the middle of being locked down as described by a Communication Officer at Utapao. This despite all information on the site being unclass and specifically designed for cooperative and interactive information flow. And despite this being, by his description, precisely the tool established for civil-military disaster response coordination by PACOM.

>   **2: Recommendation:** That any web-based civil-military collaboration capability be open, accessible to all, well-documented, and sitting on server capacity that optimizes the use of the tool for those on low-bandwidth in remote locations.

3: Principles of civil-military interaction have been codified in various locations within both UN and military professional literature including the Strong Angel 10-20-30 Document, the UNHCR Handbook for Emergencies, UNHCR Refugee Registration Handbook, the USAID-OFDA Field Operations Guide, and the Joint Publication on Foreign Humanitarian Assistance. That literature was not well-known to the staff we spoke with within the Utapao coordination center.

> **3: Recommendation:** That those tasked with civil-military coordination responsibilities be educated in the principles of humanitarian law, civil-military interaction statements, the charters of each participating agency, and the resources available from partners in the response. That coordinator should ensure that at least one site for such cooperation should be established and, if at all possible, should **not** be owned by the US military. Additionally, it might often be desirable to have more than one physical site, with one forward near the event and another more removed and capable of providing more robust informatics support.

4: Accurate and geo-registered military aircraft imaging done during the earliest days of the response was not made available, even at the UNCLASS resolution (60cm) level, to those within the operations center working on relief coordination. Thirty feet from those superb P3 resources the operations center was considering the purchase of IKONOS commercial satellite imaging because nothing else was apparently available.

> **4: Recommendation:** That policy be implemented stating humanitarian support will be provided through freely available aircraft and satellite imaging at the finest UNCLASS resolution possible as soon as it is geo-registered for GIS applications and prepared for dissemination. We must be crystal clear on what can be released to humanitarian partners. Half-classifications like For Official Use Only, LIMDIS, Sensitive But Unclassified, and the like have provided serious (and unnecessary) problems in coordination across the civil-military boundary and anecdotes were discussed in depth during Strong Angel II. I would suggest that any resources held at a classification level less than SECRET be provided without restriction during the acute phase of an operation.

5: Within the US Operations Center in Thailand and within the UN Coordination Center in Jakarta nobody knew how to contact anyone except by relationships. There was no central registry of players even ten days after the event. Even the largest organizations had only internal documents for finding each other.

> **5: Recommendation:** That a central registry of likely participants, subject-matter experts, and resource coordinators be maintained, with frequent updates mandated and provisioned by a responsible party. The Strong Angel contact template might be a good first approximation as a form, and the Strong Angel contact list has roughly 200 appropriate entries.
>
> It is important to recognize that an address book not really much help if it contains only the names of strangers. The social network, it must be stressed, is **the** dominant part of collaboration in the field. In my view there should be a team that participates frequently in both exercises and operations, crossing civil-military boundaries and demonstrating an ability to be both effective and reliable, able to reproducibly deliver collaborative support to a common humanitarian purpose.

6: Specific information was requested on a frequent basis from CSF-536 by UN, USG, and NGO partners through any methods they could devise, including personal envoys collecting CDs afloat for dissemination ashore. The Requests for Information (RFIs) contained items fully predictable under the circumstances and easily provided once permission was given to provide it to non-military recipients. Regrettably, a law was quoted that stated no information could be volunteered – it had to be

specifically requested. That, of course, was difficult since the non-military agencies had only a vague idea of the capabilities that CSF-536 represented.

> **6: Recommendation:** That RFIs during a humanitarian response be developed by the military in concert with the field staff of the non-military agencies. A determination should then be made on what can be provided to whom, when, how, and for how long. Senior military leadership should then order the provisioning of that information on those terms in a very public forum.

7: It was noted that the most reliable form of communication between Banda Aceh and Jakarta was through the use of SMS messaging on GSM cell phones. GSM phones served everyone present as a lowest-common-denominator communications backbone and the cost of the SMS messaging was very close to nothing. All GSM communications infrastructure was provided by a third party interested in a financial gain, but whose per-item cost was very small so easily amortized across the range of users.

> **7: Recommendation:** That GSM cell systems be broadly implemented as soon as feasible in any humanitarian response and that international SMS messaging be included from the outset. In most areas of the world, the infrastructure is far more robust, familiar, ubiquitous, and sustainable than anything else we can bring during the initial phase of the response.

8. Three internet communications tools considered useful in both Strong Angel II and the tsunami response were the Groove collaboration toolset, VSee teleconferencing, and Skype internet telephony (known collectively as GVS). Each is a peer-to-peer, open-standards, fully encrypted, low-cost, immediately accessible web-download for any response participant with access to the internet. Each is in use within the disaster response as I write.

> Groove collaboration software capabilities include:
>
> - Peer-to-peer, so no ownership
> - All collaborative information locally maintained
> - Secure 192-bit file encryption
> - Voice-Over-Internet (encrypted)
> - Bandwidth optimized
> - Sends only binary changes
> - Adaptive and owner-driven architecture
> - Alerting cues
> - Import-Export content as XML
> - Web download for free if needed
> - Transparent for all organizations
> - Instant Messaging (encrypted)
> - Secure chat (encrypted)
> - Who's available, instantly (presence indicators)
> - Immediate feedback on comms
> - Distance learning (and teaching)
> - Reference library
> - Logistics delivery calendar
> - Annotated maps
> - Annotated satellite photos
> - Remote presentations
>
> VSee teleconferencing capabilities include:
>
> - Peer-to-peer, so no ownership

- Secure 256-bit video encryption
- Video-Over-Internet (encrypted)
- Voice-Over-Internet (encrypted)
- Instant Messaging (encrypted)
- Secure chat (encrypted)
- File transfers (encrypted)
- Desktop sharing (encrypted)
- Bandwidth optimized, with network-usage tracking
- Sends only binary changes
- Web download for free if needed

Skype Internet telephony capabilities include:

- Peer-to-peer, so no ownership
- Secure 256-bit audio encryption
- Voice-Over-Internet (encrypted)
- Voice-over Internet free to any other Skype user
- Voice telephony to any phone in the world for the cost of a local call
- Instant Messaging (encrypted)
- Secure chat (encrypted)
- File transfers (encrypted)
- Web download for free if needed

8: Recommendation: That Groove-VSee-Skype (GVS) be considered as an early tool suite for electronic communication beyond conventional email and GSM-SMS cell systems. The specific software is not as important as the long list of capabilities they represent, particularly for disconnected users on low and intermittent bandwidth.

9. The original Groove Disaster Coordination Center workspaces (and so the larger and more populated Virtual Emergency Operations Center as well) proved too complicated to train easily. I was able to recognize again that simplicity and familiarity are the key components in any effective emergency response. I was embarrassed to recognize that my own familiarity with the software had allowed me to over-engineer solutions that proved hopelessly confusing to the very people for whom those solutions had been designed. If I'd had time to train, perhaps such confusion might have been avoided, but it should never have been there in the first place. The core capability is effectiveness in an emergency and that mandates simple, intuitive solutions that the users will then craft to their own needs very quickly.

The problems became clear quickly on the night the confusing workspaces were introduced within the UN Operations Center and we soon stopped the introduction of the tools. We removed the spaces from public view, and then re-designed them in three hours. Using simultaneous and iterative feedback from three intended users, we changed three linked spaces into a single workspace that contained most of the original functionality of the three separate and complex spaces. That re-design proved far more accessible to the users and much easier to teach to those new to collaboration.

9: Recommendation: That collaborative workspaces (from any software) be designed to accomplish <u>minimum</u> goals, allowing the native software to accomplish most of the tasks without customization, optimizing baseline familiarity and minimizing the training requirements.

10: The hotel in Jakarta provided broadband connectivity at very low cost and with firewall protection that was adequate for security and yet allowed encrypted peer-to-peer software to work flawlessly. In addition, very expensive Thuraya satellite-cell phones accepted a local SIM card from a street vendor to establish a local cellphone number in Jakarta, transforming from a sophisticated and rather finicky satellite phone to a cheap local cell phone. We used the same method for getting voice communications by phone that every other citizen in Jakarta used and the result was familiar, inexpensive, robust, and convenient.

> **10: Recommendation:** That indigenous resources (including Internet Cafes and local cellphone providers) be used when needed for bandwidth, with important data and applications encrypted. The result is the protecting of the data, not the network, and that was described as a desirable goal in the November 2004 NII NATO briefing in Brussels.

11: A Navy surgeon from Fleet Surgical Team Five gave us a summary hard-copy page of his coastal assessments since he had all of the raw information on a floppy disc and no other computer present had a floppy drive. The Navy officer, who was doing beautiful work under challenging circumstances, did not have a USB memory stick, despite that being the dominant mode for data sharing between civilian and military agencies during the Iraq war. It was later mentioned that USB sticks cannot work on shipboard computers because NT 4.0, the operating system afloat, has no driver support for USB memory sticks.

> **11: Recommendation:** That information sharing tools be prepared for field deployment with intrinsic and standard commercial resource capabilities on the UNCLASS side that cover every reasonable eventuality for data sharing, including CD and DVD writers, USB memory sticks, Zip drives and floppies, ad-hoc wireless networks, and wired crossover cables.

12: We spent time with the director of the Indonesia Disaster Assistance Response Team from USAID-OFDA (the DART) discussing what he needed for the DART and our tasking. He mentioned he had only arrived the day before, and was currently limited to only GSM cell phone comms. No internet, no email, and no radio. He mentioned that the DART as a whole was information-poor and asked that we include the DART in any conversations shipboard as also needing information. He noted that comms staff were expected within a day or so, and that things would get better quickly, but this was more than two weeks after the event.

> **12: Recommendation:** That any communications capability be trans-national and freely distributable, with basic comms made available to all organizations that request support.

13. I talked with the Marine Corps Master Sergeant in charge of DART (and Marine) comms and heard that he had been limited to only a single C-17 load by Utapao, and so had to sacrifice both vehicles and NIPR in order to optimize SIPR. He reportedly had no formal tasking from anyone to support comms for non-US gov staff, but was very willing to help anyone if tasked properly.

> **13: Recommendation:** That any US government communications capability provided in a civ-mil environment intended for collaboration specifically be tasked to incorporate UNCLASS communications rather than enhancing CLASSIFIED comms (SIPRNET) already provided as an intrinsic capability to the military assets.

14. The UN and NGO compound was roughly ten miles from the military airport and helo staging area. It was located in what was apparently a park roughly two blocks from the tsunami destruction edge, and had contained a playground, a large grassy field, and a tennis court. Erected on that tennis court ringed with cyclone fencing (a very dry place with no mud) were large, white, open tents housing UN

agencies and NGOs intermingled, particularly World Food Programme, the UN Joint Logistics Center, the UN-OCHA Humanitarian Information Center (the HIC) and NGOs that included Telecoms Sans Frontieres (known as TSF, with 56k dialup and the only internet access I had during three days in the north), Concern (Ireland), Medicins du Monde (Doctors of the World), and brief flashes of staff from Doctors Without Borders (they were staging off the Greenpeace ship *Rainbow Warrior* off the coast, with their ground base in a large warehouse on the airport road). Behind the tennis court was a park and on that greenway were the dining tents, laundry (with washers and dryers), bulletin boards, an HF antenna, a VSAT site (incomplete), and multiple tents for housing holding rows of cots covered in rigid "bug-hut" mosquito nets (cots with a surrounding tent of mosquito netting, inside a tent holding perhaps twenty of those tented cots). Much of this was local purchase, but the value of being prepared for such habitation requirements is readily apparent.

> **14: Recommendation:** That staff deploying to a civil-military operation be provided with resources that reflect initial self-sufficiency but then allow local-economy purchase of habitation requirements when at all possible. It's good for the local economy in a disaster, and ensures that the staff have indigenous resources that mirror the known requirements for the locale. That requires that cash be present and able to be used flexibly when needed.

15. The contrast with the challenging conditions at the airfield tent city (which had deep mud within the tents, no latrines, no laundry, no dining facility, no comms center, no meeting facilities, yet which had been in existence for the same length of time as the UN compound) could not have been much more striking. One important reason was that the US military at the airfield reportedly went back to the ship each night, while the UN agencies were putting in infrastructure they intended to use for a while, living on site. Of note, there was no US military presence on that compound at all, despite having a large section of a tent dedicated to the possibility and left empty. Of interest, a Civil-Military Operations Center was under discussion (including within the Flag brief aboard Lincoln) the entire time we were present in Banda Aceh. The plan was for it to be located at the military airfield, but a careful discussion revealed that no communications capability could be provided, the US military would effectively own it, it was located many miles from the downtown UN compound that contained the Humanitarian Information Center (already up and running) and there were not enough personnel present on the non-military side to staff two coordination centers.

> **15: Recommendation:** That any civil-military operation ensure that there is a US military presence anywhere that seems appropriate for close coordination. That presence will vary from operation to operation, and our presence occasionally results in the site becoming a target, but that's not universal and should be evaluated on a case-by-case basis. We lost significant insight into logistics requirements and the conduct of non-military relief operations by not having a presence on the UN compound. We also lost a window into the emotional cost of the disaster on the local citizens that were living and working immediately adjacent to the UN park. That perspective might be useful information when we are trying to influence the attitude of a population over the longer term.

16. The UN-NGO Coordination meeting was held at UNICEF three days a week. We attended on an off-day because the UN Special Representative of the Secretary-General was present, Madame Waldstrom. Perhaps 75 people were in the room, including some international military but, on that day, I was the only US military presence I saw and we looked carefully through the hour-long meeting. I understand US military had occasionally attended on other days. Again we met multiple people we'd known before. We also had an extended conversation with the man responsible for planning the composition of the UN-USAID Interagency Assessment Team scheduled to go out to the carrier the next day and begin a week of helo-based assessments. The selection process was challenging and in progress and both WFP and UNJLC were arguing that there was too strong a medical epidemiology focus and no logistics specialist.

16: Recommendation: That the US military ensure participatory attendance by decision makers at all relevant civil-military coordination briefings during a civil-military operation.

17. While on the UN compound we registered with Telecoms sans Frontieres (TSF), the telecoms NGO running comms on the site. On bringing my laptop online I found two WiFi clouds, wide open except for registration of my MAC address with TSF. That took, literally, 30 seconds of conversation with the TSF team at the next table and we were up. Very smooth. In the interest of time and bandwidth (since many others were trying to do real work late at night in preparation for the next days schedule) we quickly browsed email for critical issues and were offline again in 15 minutes.

17: Recommendation: That Telecoms sans Frontieres (TSF) be viewed as a model for open, inclusive, coordinated, and effective communications provisioning within an austere environment.

18. The site was supposed to have a VSAT on site, but transportation delays had held parts at Medan airfield and it was expected up that day. It was not yet up due to failed lift from the Medan airport due to the stacking delays.

18: Recommendation: That logistics support, including lift, be offered to UN agencies responsible for coordination of critical aspects of relief operations. Most non-military relief organizations do not have intrinsic lift capability and so rely on commercial transportation. That usually works, but may not be present early in a relief effort. Rapid provisioning of military transportation for logistics support may avoid significant delays later in the operation and should be encouraged by the on-scene commander. Transportation is currently our dominant strength. We might choose to alter that with the provisioning of open and unfettered communications.

19. Aboard the carrier USS Abraham Lincoln (CVN-72) a team member and I attended the evening Flag Brief. The information presented in the brief was extremely valuable and, in great part, was unclassified. The evening Flag Brief as an event, however, was classified Secret and so could not be attended by the thirty or so members of the UN-USAID-NGO Interagency Assessment Team (UUNIAT) that had flown aboard that afternoon. They were off in the Learning Center portside forward and not privy to the discussion.

The brief contained many Situational Awareness slides from around the theater, including <u>unclassified</u> security reports from the LZs along the coast, that would have been valuable information for everyone – civilian and military - working there. It is possible the UUNIAT was later updated, but those ashore were not and that is a critical gap. We, the military, have the information because we had the means to collect, analyze, and distribute it among ourselves. There was no evidence that information reached anyone else on the ground and I confirmed that later with the WFP-UNJLC Team deploying to Meulaboh. This is due in large part to a lack of an official link between military and non-military agencies, and not due to an unwillingness to share. This particular shortcoming only highlighted the need for a shared situational-awareness space.

19: Recommendation: That decision-level briefings be held in common during a civil-military operation to the greatest extent possible, reserving time outside of the norm for routine briefs on Status of Forces and Daily Intel. This has been a recurrent theme in my own experience from Bosnia through Colombia, Kosovo, Turkey, Kuwait, Iraq, Afghanistan and more. There are certainly efforts at inclusion, but the rebuilding of a daily schedule to place the focus on the civil side of civil-military operations is rarely complete. We should recognize, though, that we, the military, often have the greater need to understand the civil side of the effort since early

transition will allow us to go home while leaving a robust and sustainable infrastructure – and the attendant good will associated with that – behind us.

20. After the Flag Brief we met with a number of people including the Flag Aide, the Communications Officer for the Flag staff, and the N2 for the Staff. We noted there are significant impediments to reaching unclass communications. By report there are roughly 1,200 NIPRNET terminals aboard Lincoln but access to many fundamental civil-military communication tools is blocked by IS policies.

Example: Web-based email is not permitted aboard the CV due to security policies. I was unaware of the circumstances and, once I found out, I was able to spend a little time explaining to the Navy side that web-based email was how most of these organizations do business while deployed (as I do). To issue them new shipboard email addresses when they were quite senior in their organizations, and deeply engaged in a disaster response that they were coordinating, particularly when comms ashore were already so tough and the teams were expected to be aboard most of a week, meant that the relief effort might be significantly hampered for no obvious reason.

The XO was made aware of the problem and allowed web-based email within about 15 minutes. It is likely that some good will was lost and some suspicions were seemingly confirmed that the Navy really does not want to help other organizations very much. That, we noted in discussion, is an impression that, right or wrong, becomes pervasive and self-fulfilling as each side, civ and mil, retreats from collaboration out of a sense of self-protection. Unfortunate and avoidable.

> **20: Recommendation:** That communications capabilities be opened to the greatest extent possible when unclassified US military systems are the means by which UN, USAID, and NGO partners are coordinating their parts of a relief response. Optimal might be an entirely separate network that never touches the military systems so that restrictions can be removed and network-administrator reflexes can be subdued. That would also allow outside staff to bring their own laptops onto a US military network and begin effective work immediately with their own resources at hand. That is the same principle used by Telecoms san Frontieres, any internet café, and any hotel broadband system – the computers are placed on an open network at their own risk.

21. While aboard Lincoln we decided to try APAN, the Asia-Pacific Area Network, designed for disaster response by PACOM. It is a PACOM asset and was coordinated through Utapao, Thailand by people who wanted it used for coordination. We had no difficulty getting to ordinary websites (CNN, BBC, my own Carebridge) but APAN timed out without access. We stopped counting after about 60 tries over 12 hours and were not ever able to connect.

> **21: Recommendation:** That any web-centric and center-based system be designed to optimize usefulness for those farthest forward using limited and intermittent bandwidth. That will require attention to the server design, graphics intensity, and content-change transmission. Bandwidth-intensive center-based systems may otherwise fail just when their capabilities are most needed. We should explore options to extend center-based capabilities with technologies that support low-bandwidth networks and disconnected operations.

22. The Flag N2 and I went over the list of roughly 20 items that the UN agencies and USAID thought would be helpful as a regular information exchange. It was explained that much of the information requested was available and unclassified and in an appropriate format, but that the US Navy is forbidden from offering information. It can be given if specifically requested once approved by the appropriate authority, in this case CSGI, the Combined Support Group-Indonesia.

22: Recommendation: That consistent information requirements, common across all civil-military operations, be codified now into a list that becomes the starting position for information distribution at the inception of any civil-military operation, with the distribution order disseminated from the highest possible level within the Theater. One version was established and approved within the 10-20-30 Document out of Strong Angel I. The document is appended below and the likely information requirements are delineated throughout item 17 within the Twenty Recommendations. It might serve as an adequate starting point for any future civil-military coordination effort.

On returning to Jakarta we returned to the UN Operations Center and discussed the need for flyaway IP comms. One UN staff member mentioned that this had been the first emergency response where World Food Programme (the comms lead-agent for the UN) had not established HF radio first as the dominant communications method. A responsible UN staff director said that, for the first 30 days of any response, he was allowed to use any communications offered by anyone as long as it was not military.

Summary:

A. <u>A dedicated humanitarian response capability is needed.</u> It appears desirable to have a DoD team dedicated to the effective bridging of the civil-military boundary during periods between crises, then responding within hours when a crisis occurs. That team should have Program of Record status, adequate funding, competent and dedicated staff, flexible and reliable funding, diplomatic passports, and be considered an integral component of our national security. Civil Affairs Teams from the Army and the Marine Corps might be our closest current approximation, but they are almost exclusively Reserve, are relatively few in number, and are currently tasked with many other responsibilities that stretch them very thin. They are probably not the right resource.

B. <u>The social network for humanitarian response deserves cultivation.</u> The social network has proven the most effective bridge across the civil-military boundary though several exercises and operations. Technology has facilitated interaction, but it has not made that interaction successful; that requires people who have developed a modicum of trust between each other and for their organizations. Money, time, and effort should be employed to enhance those relationships.

C. <u>Doctrine requires modification.</u> The new default should be the sharing of unclassified information with those engaged in a common humanitarian purpose. The decision on what to share should rest with the Operational Commander who should, in turn, be schooled in humanitarian law, humanitarian response, and the charters of various likely partners in a response. That Commander should then have the freedom to act as seems fit under the circumstances.

D. <u>Law requires modification.</u> The constraints applied to US monies used to humanitarian purpose have entanglements that need to be relaxed. Such funding, which is always modest, must be able to be used to accomplish goals not predictable in advance and which must shift daily as new needs unfold during a humanitarian response. Too many opportunities to do well in an early stage have been lost for reasons related to legal constraints, and the consequences of those missed opportunities have been severe.

E. <u>Capabilities require support.</u> A set of software tools and capabilities once needed in Iraq were found useful in Strong Angel II and prepared for deployment. Some, like **VSee teleconferencing**, remain the best we've ever seen but their funding has not been supported so a very capable piece of technology may be lost. That loss is despite the development of convoy awareness that surpasses anything we've seen demonstrated for Convoy Protection, and for very low cost.

We also noted that the **Pony Express**, a distributed mobile wireless collaboration capability developed in Strong Angel, has not been replicated anywhere since and might have been very useful in Banda Aceh between the UN compound (with little bandwidth) and the military tent-city (with little bandwidth). A single taxi hired to carry the relay server and 802.11 router would have at least established reliable (though intermittent) asynchronous communications between those relief coordination areas. The Pony Express, as a fly-away tool, has not been pursued.

Translation tools, interesting and useful in Strong Angel, were not brought to Banda Aceh because the capability has not yet been funded to support a real-world endeavor. Had the researchers used their research dollars that deeply this far into the fiscal year, the teams would have exhausted their budget early and lost research staff by the end of the year. There is no funding support for the operational deployment of translation tools.

The **Asia-Pacific Area Network (APAN)** looked very good while in Utapao, but was not optimized for use forward or on intermittent communications. There might be a very effective integration possible for both APAN and Groove (and perhaps PopG and VSee) but such a requirement has not been either developed or funded. Like the Pony Express, such a capability has not appeared on a problem list, far less been considered for solution implementation now that the solution has been designed and tested in the field.

The **electronic forms** originally selected from non-US conflict recovery tools were then used in Iraq and later adapted for Afghanistan. Those same tools were then adapted for Indonesia and apparently worked well and are in use by the United Nations Joint Logistics Center and others. Those forms should be archived, then iterated further as opportunity permits, and should then become a part of an archived toolkit, able to be re-hydrated at a moments notice to respond anywhere in the world. Such a toolkit capability requires attention, education, a social network for adoption and refinement, and a distribution capability that does not currently exist.

Skype Voice-Over-IP telephony was used daily in Indonesia to talk to industrial resources, professional partners, and our families. Skype saved thousands of dollars in long-distance charges from the hotel and occasionally provided the only possible voice link to the United States and Europe. It is worth serious consideration for IP-based response communications. It's free software, downloaded from the web.

Recommendations Summary

1: Recommendation: that any operations center that must respond to real-world events in real-time be provided with multi-modal address books and rapid point-of-presence indicators (shared-awareness capabilities) that cross the civil-military boundary.

Communications capabilities should include pure civilian communications and may well be best placed remotely so that bandwidth and lodging can be optimized. That may be a hotel, an aircraft carrier, or a remote population center a continent away. The core requirement is that all agencies have local representation and unfettered bandwidth to their rear and forward staff. On that basis, physical location should be optimized and may well be in a city or aboard a CV.

2: Recommendation: That any web-based civil-military collaboration capability be open, accessible to all, well-documented, and sitting on server capacity that optimizes the use of the tool for those on low-bandwidth in remote locations.

3: Recommendation: That those tasked with civil-military coordination responsibilities be educated in the principles of humanitarian law, civil-military interaction statements, the charters of each participating agency, and the resources available from partners in the response. That coordinator should ensure that at least one site for such cooperation should be established and, if at all possible, should **not** be owned by the US military. Additionally, it might often be desirable to have more than one physical site, with one forward near the event and another more removed and capable of providing more robust informatics support.

4: Recommendation: That policy be implemented stating humanitarian support will be provided through freely available aircraft and satellite imaging at the finest UNCLASS resolution possible as soon as it is geo-registered for GIS applications and prepared for dissemination. **We must be crystal-clear on what can be released to humanitarian partners.** Half-classifications like For Official Use Only, LIMDIS, Sensitive But Unclassified, and the like have provided serious (and unnecessary) problems in coordination across the civil-military boundary and anecdotes were discussed in depth during Strong Angel II. I would suggest that

any resources held at a classification level less than SECRET be provided during the acute phase of the operations without restriction.

5: Recommendation: That a central registry of likely participants, subject-matter experts, and resource coordinators be maintained, with frequent updates mandated and provisioned by a responsible party. The Strong Angel contact template might be a good first approximation as a form, and the Strong Angel contact list has roughly 200 appropriate entries.

It is important to recognize that an address book not really much help if it contains only the names of strangers. The social network, it must be stressed, is **the** dominant part of collaboration in the field. In my view there should be a team that participates frequently in both exercises and operations, crossing civil-military boundaries and demonstrating an ability to be both effective and reliable, able to reproducibly deliver collaborative support to a common humanitarian purpose.

6: Recommendation: That RFIs during a humanitarian response be developed by the military in concert with the field staff of the non-military agencies. A determination should then be made on what can be provided to whom, when, how, and for how long. Senior military leadership should then order the provisioning of that information on those terms in a very public forum.

7: Recommendation: That GSM cell systems be broadly implemented as soon as feasible in any humanitarian response and that international SMS messaging be included from the outset. In most areas of the world, the infrastructure is far more robust, familiar, ubiquitous, and sustainable than anything else we can bring emergently.

8: Recommendation: That Groove-VSee-Skype (GVS) be considered as an early tool suite for electronic communication beyond conventional email and GSM-SMS cell systems. The specific software is not as important as the long list of capabilities they represent, particularly for disconnected users on low and intermittent bandwidth.

9: Recommendation: That collaborative workspaces (from any software) be designed to accomplish minimum goals, allowing the native software to accomplish most of the tasks without customization, optimizing baseline familiarity and minimizing the training requirements.

10: Recommendation: That indigenous resources (including Internet Cafes and local cellphone providers) be used when needed for bandwidth, with important data and applications encrypted. The result is the protecting of the data, not the network, and that was described as a desirable goal in the November 2004 NII NATO briefing in Brussels.

11: Recommendation: That information sharing tools be prepared for field deployment with intrinsic and standard commercial resource capabilities on the UNCLASS side that cover every reasonable eventuality for data sharing, including CD and DVD writers, USB memory sticks, Zip drives and floppies, ad-hoc wireless networks, and wired crossover cables.

12: Recommendation: That any communications capability be trans-national and freely distributable, with basic comms made available to all organizations that request support.

13: Recommendation: That any US government communications capability provided in a civ-mil environment intended for collaboration specifically be tasked to incorporate UNCLASS

communications rather than enhancing CLASSIFIED comms (SIPRNET) already provided as an intrinsic capability to the military assets.

14: Recommendation: That staff deploying to a civil-military operation be provided with resources that reflect initial self-sufficiency but then allow local-economy purchase of habitation requirements when at all possible. It's good for the local economy in a disaster, and ensures that the staff have indigenous resources that mirror the known requirements for the locale. That requires that cash be present and able to be used flexibly when needed.

15: Recommendation: That any civil-military operation ensure that there is a US military presence anywhere that seems appropriate for close coordination. That presence will vary from operation to operation, and our presence occasionally results in the site becoming a target, but that's not universal and should be evaluated on a case-by-case basis. We lost significant insight into logistics requirements and the conduct of non-military relief operations by not having a presence on the UN compound. We also lost a window into the emotional cost of the disaster on the local citizens that were living and working immediately adjacent to the UN park. That perspective might be useful information when we are trying to influence the attitude of a population over the longer term.

16: Recommendation: That the US military ensure participatory attendance by decision makers at all relevant civil-military coordination briefings during a civil-military operation whenever and wherever feasible, putting effort into determining which meetings are obligatory for effective cooperation.

17: Recommendation: That Telecoms sans Frontieres (TSF) be reviewed as a possible model for open, inclusive, coordinated, and effective communications provisioning within an austere environment.

18: Recommendation: That logistics support, including lift, be offered to UN agencies responsible for coordination of critical aspects of relief operations, perhaps most commonly through the host country. Most non-military relief organizations do not have intrinsic lift capability and so rely on commercial transportation. That usually works, but may not be present early in a relief effort. Rapid provisioning of military transportation for logistics support may avoid significant delays later in the operation and should be encouraged by the on-scene commander, in support of and fully integrated with the local US Embassy. Transportation is currently our dominant strength. We might choose to alter that with the provisioning of open and unfettered communications.

19: Recommendation: That decision-level briefings be held in common during a civil-military operation to the greatest extent possible, reserving time outside of the norm for routine briefs on Status of Forces and Daily Intel. This has been a recurrent theme in my own experience from Bosnia through Colombia, Kosovo, Turkey, Kuwait, Iraq, Afghanistan and more. There are certainly efforts at inclusion, but the rebuilding of a daily schedule to place the focus on the civil side of civil-military operations is rarely complete. We should recognize, though, that we, the military, often have the greater need to understand the civil side of the effort since early transition will allow us to go home while leaving a robust and sustainable infrastructure – and the attendant good will associated with that – behind us.

20: Recommendation: That communications capabilities be opened to the greatest extent possible when unclassified US military systems are the means by which UN, USAID, and NGO partners are coordinating their parts of a relief response. Optimal might be an entirely separate network that never touches the military systems so that restrictions can be removed and network-administrator reflexes can be subdued. That would also allow outside staff to

bring their own laptops onto a US military network and begin effective work immediately with their own resources at hand. That is the same principle used by Telecoms san Frontieres, any internet café, and any hotel broadband system – the computers are placed on an open network at their own risk.

21: Recommendation: That any web-centric and center-based system be designed to optimize usefulness for those farthest forward using limited and intermittent bandwidth. That will require attention to the server design, graphics intensity, and content-change transmission. Bandwidth-intensive center-based systems may otherwise fail just when their capabilities are most needed. We should explore options to extend center-based capabilities with technologies that support low-bandwidth networks and disconnected operations.
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22: Recommendation: That consistent information requirements, common across all civil-military operations, be codified now into a list that becomes the starting position for information distribution at the inception of any civil-military operation, with the distribution order disseminated from the highest possible level within the Theater. One version was established and approved within the 10-20-30 Document out of Strong Angel I. The document is appended below and the likely information requirements are delineated throughout item 17 within the Twenty Recommendations. It might serve as an adequate starting point for any future civil-military coordination effort.

The 10-20-30 Document from Strong Angel I is appended below.

END

10-20-30 Document:
Civil-Military Interaction Advice from Strong Angel

Eric Rasmussen, MD, FACP
Fleet Surgeon, Third Fleet
27 June 2000
Rim of the Pacific 2000

The summary thoughts below have been very liberally borrowed from smart people. Some are previously published, some are original statements from Strong Angel participants, and some are just our discussed and considered opinion of a productive way to do things. Few are likely to be innovative; lessons learned the hard way tend to repeat themselves with no prompting.

There are three general categories of civil-military interaction:
- conflict intervention,
- natural disaster response, and
- complex emergency support.

There are suggestions for each below.

Ten Commandments:

1) **The military should generally not be in overall charge. JTF Commander should be clearly subordinate to civilian authorities whenever possible. This:**
   i) Sets a democratic process in place that's reassuring to the population served
   ii) Sets expectations for the levels of responsibility
   iii) Keeps the military footprint to an absolute minimum
      (1) With a transition requirement apparent daily
   iv) Allows some mission drift (a desirable flexibility) while minimizing mission creep
   v) Maintains a coordinated Host Nation Support mandate
      (1) Establish the scope of that mandate early and often
2) **Technology cannot substitute for personal interaction**
   i) Use all available modes of communication
      (1) Decide in common when and how to use technology
      (2) Don't assume face-to-face is ideal, but it's a good default
   ii) Agree early on common definitions of important terms
   iii) Do not assume that each understands the other. Cultural differences can be subtle, but profound
   iv) Get out and talk with counterparts frequently. Share food and drink, equipment and resources. It's proven to save lives.
3) **Personalities are more important than Processes**
   i) Don't throw away the book; thoughtful and experienced people wrote it, but be able to flex. You're the one on the scene. Value your own leadership in context.
4) **Know the cultures and issues that surround you.**
   i) Avoid imposing your standards and beliefs, but remember that there are international declarations defining fundamental human rights
   ii) Avoidable misunderstandings can cause distracting escalations
   iii) Strive for impartiality to the sides within the conflict
   iv) Breadth of understanding fosters a better recognition of the scope of your real task.
5) **Work on building communications networks as you begin to plan**
   i) Key people need to communicate early across organizations
   ii) Provide power where it's needed – all forms
   iii) Get a multi-pathway phone book out and keep it updated
   iv) If you can't communicate, you can't coordinate

6) **Centralize planning and de-centralize execution.**
    i) Trust your people, but be thoughtful about whom you empower
7) **Coordinate everything with everybody to the greatest possible extent**
    i) Few issues will doom a mission more quickly than the perception of arrogance
    ii) The troops need to know their role in the larger picture
8) **UN agencies are distinct, anarchic, and highly effective**
    i) UN agencies agree through collaboration and consensus. Don't try to impose force.
    ii) UN agency technical communications structure has often been the best in the area
    iii) The UN is no monolith. It is more than fifty agencies with various management structures, but a common theme is that the management is often very flat – occasionally directly from highest headquarters to a local representative in the field.
    iv) UN agencies consider their mandate to be externally focused while we often look at "self" and "other". Not wrong either way, but very different. Worth remembering.
    v) UN agencies were there before, are there now, and will be there afterwards. They know a lot about the neighborhood and they understand the situation.
    vi) The UN agencies look to the military to provide four areas: LISH
        (a) Logistics support (particularly heavy lift)
        (b) Information (particularly local conditions)
        (c) Security (of UN and other non-governmental staff)
        (d) Health (primary care for the UN staff)
    vii) The key to success will be coordinating and cooperating
9) **Senior Commanders and Staffs need education and training for non-traditional roles**
    i) Troops need awareness and understanding. Push the situational awareness out as far as you can.
10) **Even in a seemingly simple operation – there WILL BE more media and more politics than anticipated. Be fair and be consistent.**

Twenty Recommendations:

1) **Under-promise. Over-perform.**
    i) Repeat your intentions over and over, doing everything possible to prevent false expectations
    ii) Make sure you complete the task you promised
    iii) Build sustainable solutions that can be effectively transitioned to national agency management.
    iv) Make sure it's legal to make the promises you choose to make
        (1) Standards of Conduct and Rules of Engagement can be exceptionally complicated for all concerned
        (2) Keep the lawyers within your inner circle
2) **The humanitarian intent should remain primary even against odds. Let it drive the operation.**
3) **Ensure all planning is Joint.**
    i) Use your sister Services. Play to everyone's strengths.
4) **Synergy between the civilian and military arenas can be found through an awareness of competitive advantage within the continuum of effort.**
    i) Help each party see the valuable reasons for working together.
    ii) Ensure they have those reasons.
5) **A Civil-Military Operations Center, in function if not in physical space, will be indispensable**
    i) Break down the razor-wire barriers. Invite partners in.
        (1) Co-location improves the cohesiveness of effort
        (2) Problems can be solved in a common forum
        (3) Issues discussed elsewhere can be voted upon collectively
6) **Women in uniform can be a reassuring presence to an affected population**
    i) 85% of recent affected populations have been women and children

      ii) May distinguish the image of our new military presence over the local traditional military presence, increasing acceptance and improving rapport quickly

7) **Avoid compartmentalized planning.**
      i) Communication is hard enough. Don't compound the problem.

8) **The two components likely to fail most frequently are communications and lift.**
      i) Expect it. Plan in parallel layers.
      ii) Keep a bedrock communications layer as a lowest common denominator across all boundaries and use it daily

9) **Readiness should not be confused with sustainability.**
      i) Be ready for high-end force projection going in, with secure logistics to follow quickly. The sustainment force composition is very different, is rarely on tap, and must be accounted early.

10) **The psychological costs of sustainment are disproportionately placed on the shoulders of the best talent. Protect them.**

11) **An afloat CMOC offers security, hygiene, and rest. While imperfect, it's a proven asset for some situations.**
      i) Naval assets in a coastal region provide presence, poise, and protection.
      ii) Early, formative discussions between new partners (a Humanitarian Planning Team) can take place afloat, then move ashore when ready

12) **Critical Incident Stress Response within the care providers can prove disabling.**
      i) Ensure resources are available for support. Most people have never seen what your personnel will have to endure daily.

13) **Establish liaisons with stakeholders at every possible level, inserting full-time live bodies from coordinating agencies (e.g. the UN) where it seems valuable and where you can:**
      i) within the Host Nation infrastructure
      ii) within the local population groups
      iii) within the coalition partners

14) **Establish pre-conditions for deployment where you can within**
      i) Host nation agreements (through the Embassy, a Country Team, or a UN agency)
      ii) Self-nation agreements
      iii) International participants in the Theater
      iv) UN agencies
      v) Donor nations and agencies

15) **Establish a secure environment for the conduct of your mandate**
      i) Establish freedom of movement
      ii) Neutralize the effectiveness of the belligerents in a fair and equitable manner across factions when possible
      iii) Establish and maintain working relationships with the Host Nation, most frequently through the Embassy with a coordinating UN agency
      iv) Be prepared to support humanitarian operations. They are often the core of the solution
      v) Be able to monitor, verify, and report to and on your major stakeholders

16) **Information Operations can improve safety and security during transitions to sustainment**
      i) Conversely, in a digital age, communication dependent upon data links is inherently fragile and temptingly vulnerable. Expect failures.
      ii) Use your PSYOPS and Civil Affairs teams early. May save lives.

17) **Situational awareness will be problematic.**
      i) Maps should be held in common and briefed in common
        (1) Declassify information early and often to the greatest possible extent
      ii) Daily briefs across topic areas should be held with all major stakeholders
        (a) Safety and Protection
        (b) Food
        (c) Logistics transport
        (d) Social services
        (e) Domestic needs
        (f) Health and nutrition

(g) Water and sanitation
(h) Education
(i) Shelter
(j) Income generation
(k) Environmental protection
(l) Agency operational support
(m) Public Information
(n) Budgets
(o) Exit Strategy

18) **Information that needs to be tracked constantly:**
(a) Deployment of Armed Forces
(b) Stock at a glance
(c) Stock position, location
(d) Market price of Food Grains
(e) Maps: storing places and ports
(f) Shipping Schedules
(g) Position of Ships
(h) Unloading details
(i) Food movement programs
(j) Internal Procurement
(k) Maps: Situation Maps of affected areas
(l) Relief Activities
(m) Cash Allocated
(n) Damage Reports
(o) Foreign Relief arrivals

19) **Key initial decisions to make:**
i) Weapons status?: none, or consider the absolute minimum level required
ii) Host Nation ability to provide appropriate/adequate level of security?
   (1) Try to augment and build. Not replace and take over.
iii) Medical support and social sensitivities?
iv) Civil Affairs to do Assessments?
v) Means of communication coordination?: chose lowest common denominator
vi) Imaging is necessary – getting the products to the people who really need it
   (1) Again, declassify quickly
vii) How to get to the people who need the most support – those in the muddy boots

20) **Know the environment**
a) Weather, dust, mud, insects, diseases, and the impact on equipment and personnel

Thirty Advisories:

1) Decide on the image you want to portray and stick to it.
2) Start and restart key institutions early
   a) Medicine, education, telephone services, electrical power, churches…
   b) Begin the restoration of normalcy in areas that can transition early
   c) Stay involved enough to ensure the re-start is sustainable
3) Don't make enemies but, if you do, don't treat them gently
4) Encourage innovation and non-traditional approaches. Then listen when you get them.
5) Plan early and include everyone. This can't be stressed enough.
6) Determine the Commander's Intent, the Centers of Gravity, a Mission Analysis from the Intent and those Centers, an End State, Measures of Effectiveness toward that End State, and a phased Exit Strategy toward a transition to normalcy

7) Remain aware of other operational commitments elsewhere that may tax your resources and replenishment options. There have been unwelcome historical surprises.
8) Initial and replenishment manning will fall short in medical, dental, construction, port operations, and other specialist areas. Few Services are deep in skilled personnel anywhere in this new millennium.
9) Avoid becoming the carrier of the United States Checkbook. That can create a falsely inflated economy very hard on the rest of the local population
10) Medical facilities have historically been looted and destroyed early.
11) Other skilled local staffs are often gone by the time we get there. Construction, electrical, plumbing, teachers, doctors, nurses, midwives, and so forth
12) Be aware of the local anti-intervention PSYOPS campaign that may be waged against you
13) Decide whether you need better maps and charts early and get the surveys started
    a) Don't forget to share
14) Recognize that fear of the military will be a constant impediment for many people at some level. It will be essential for you to understand the conflict issues, parties, and history
15) Identify your budget and financial sponsors early, and recognize that all players present have both
16) Also note that all participants have media requirements to one degree or another. Don't fight a tidal wave. Assist each other in the common goal of ensuring each is (and looks) useful to the sponsoring agencies
17) Recognize that military priorities for early self-sustainment may not be shared by all parties present. Offload and airlift schedules will be controversial if transport logistics are difficult and controlled by the military
18) Investigations of events that may later be evidence of war crimes will be an early requirement, often within the first 48 hours within the area. Be prepared to interview in the native language, photograph sites and subjects, and then archive the developing documentation. This has historically gone poorly and the guilty have gone free.
19) Be prepared to offer religious services to affected populations. In many areas of the world such services are an overriding concern, and holding services can sometimes defuse significant tension.
20) There is never enough scalable amphibious lift in a coastal operation
21) Make early arrangements for a scalable, mobile public address system
22) Form an early VHF and HF communications link between the military and the UN agencies
23) There should be an area available for informal discussions. Coffee, tea, a few chairs. Much gets accomplished in an informal context, one-on-one.
24) The UN agencies need a separate area to work together apart from the military. They will be there far longer than most military staff and may well stay in better, long-term billeting.
25) Early formation of a Combined Logistics Cell that incorporates everyone saves a lot of time, money, and frustration.
26) Power fails. Have backup manual methods for anything important that requires electricity. Many painful lessons on record.
27) Have a central area for posting decisions, messages, and schedules
28) Remember that more than half of our recent populations have been under age 15. We need preparation to handle children in large numbers. Use UNICEF. They are prepared to manage issues associated with child soldiers.
29) The UN agencies are very reluctant to depend on the military for core services support. Our military priorities are altered on short notice from authority outside of our control, affecting the UN agency service provisioning to their population.
30) Ensure all of your personnel understand their Standards of Conduct and Rules of Engagement. The carrying of small laminated cards has proved useful.

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END